

< WORKSHEET

Chemistry

ATTEMPTED MCQS 0/30



1) Which of the following product is obtained by the reaction of Grignard reagent with ketone followed by hydrolysis?

- A) 1° alcohol C) 3° alcohol
B) 2° alcohol D) Both B and C

☐ A ☐ B ☐ C ☐ D

2) Which of the following tests helps us to distinguish between methanol and ethanol?

- A) Lucas test C) Tollen's test
B) Iodoform test D) Baeyer's test

☐ A ☐ B ☐ C ☐ D

3) Which of the following is the weakest acid?

- A) Carboxylic acid C) Phenol
B) Ethanol D) Ethyne

☐ A ☐ B ☐ C ☐ D

4) All of the following statements about phenol and ethanol are correctly matched EXCEPT:

Opt.	Properties	Phenol	Ethanol
A)	Bromination (Br ₂ /H ₂ O)	White ppt of 2,4,6-Tribromo phenol	No reaction
B)	H ₂ /Ni	No reaction	No reaction
C)	Action of organic acid	No reaction	Formation of ester
D)	Iodoform test	No reaction	Yellow ppt of CHI ₃

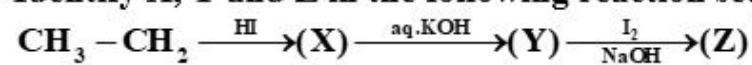
☐ A ☐ B ☐ C ☐ D

5) In which of the following reaction ethene is formed:

- A) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{Na} \longrightarrow$
B) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{SOCl}_2 \longrightarrow$
C) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{conc. H}_2\text{SO}_4 / 180^\circ\text{C} \longrightarrow$
D) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{PCl}_5 \longrightarrow$

☐ A ☐ B ☐ C ☐ D

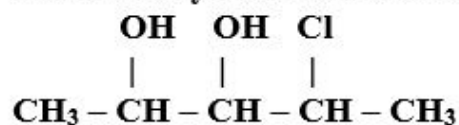
6) Identify X, Y and Z in the following reaction sequence:



- A) Iodoethane, ethanol, iodoform
- B) Ethanol, iodoform, iodoethane
- C) Iodoform, iodoethane, ethanol
- D) Iodoethane, iodoform, ethanol

☐ A ☐ B ☐ C ☐ D

- 7) Which one of the following is the correct name according to IUPAC system for the formula given below?



- A) 4-Chloro-2,3-pentadiol
- B) 4-Chloro-3,4-pentadiol
- C) 3-Chloro-2,3-pentadiol
- D) 3-Chloro-2,4-pentadiol

☐ A ☐ B ☐ C ☐ D

- 8) Which of the following drying agent is used to get absolute alcohol from rectified spirit?

- A) Conc. H_2SO_4
- B) CaO
- C) Al_2O_3
- D) H_3PO_4

☐ A ☐ B ☐ C ☐ D

- 9) The phenoxide is more stable than ethoxide ion as:

- A) Lone pair on oxygen atom overlaps with the delocalized π -bonding system in benzene
- B) Oxygen atom is directly bonded with benzene ring in phenoxide ion
- C) The negative charge is localized on oxygen atom of phenoxide ion
- D) The negative charge is delocalized on oxygen atom of ethoxide ion

☐ A ☐ B ☐ C ☐ D

- 10) The type of monohydric alcohols in which $-\text{OH}$ group is attached with such carbon atom which is further attached with one carbon atoms and two hydrogen atoms is called:

- A) 1° alcohols
- B) 2° alcohols
- C) 3° alcohols
- D) Absolute alcohol

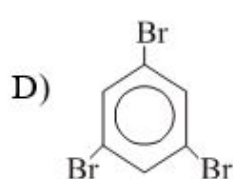
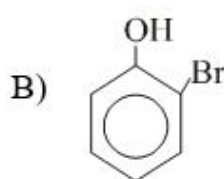
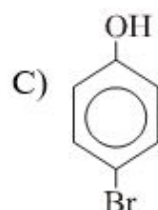
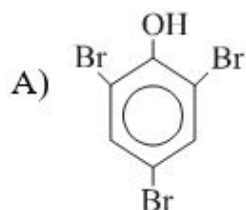
☐ A ☐ B ☐ C ☐ D

- 11) Which of the following types of alcohols on oxidation with acidified potassium dichromate gives aldehydes?

- A) 1° alcohols
- B) 2° alcohols
- C) 3° alcohols
- D) Neo alcohol

☐ A ☐ B ☐ C ☐ D

- 12) Aqueous phenol decolorizes bromine water to form white ppt. What is the structure of white ppt formed?



☐ A ☐ B ☐ C ☐ D

- 13) When phenol is treated with concentrated nitric acid at high temperature, which of the following product is obtained?

- A) o-nitrophenol
- C) m-nitrophenol

- A) o-nitrophenol C) m-nitrophenol
B) p-nitrophenol D) 2,4,6-trinitrophenol

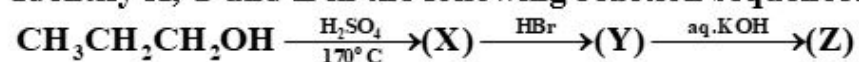
☐ A ☐ B ☐ C ☐ D

14) Which of the following reactions shows that phenol acts as an acid?

- A) Reaction with conc. nitric acid
B) Reaction with bromine
C) Reaction with NaOH
D) Reaction with H₂

☐ A ☐ B ☐ C ☐ D

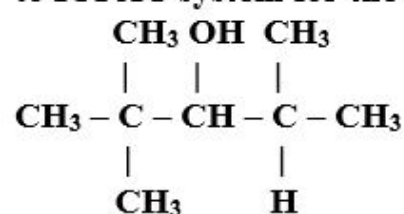
15) Identify X, Y and Z in the following reaction sequence:



- A) Propene, isopropyl bromide, isopropyl alcohol
B) Isopropyl alcohol, isopropyl bromide, propene
C) Isopropyl alcohol, propene, isopropyl bromide
D) Isopropyl bromide, propene isopropyl alcohol

☐ A ☐ B ☐ C ☐ D

16) Which one of the following is the correct name according to IUPAC system for the formula given below?



- A) 2,2,4-Trimethylpent-3-ol C) 2,2,4-Trimethylpent-2-ol
B) 2,3,4-Trimethylpent-3-ol D) 2,3,5-Trimethylpent-3-ol

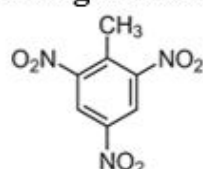
☐ A ☐ B ☐ C ☐ D

17) Which of the following is the strongest acid?

- A) Carboxyl acid C) Water
B) Phenol D) Alcohol

☐ A ☐ B ☐ C ☐ D

18) Considered the following structure:

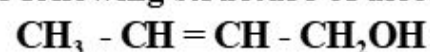


The correct name according to IUPAC of the above structure is:

- A) 2,4,6-Trinitrotoulene C) 2,3,4-Trinitrotoulene
B) 1,3,5-Trinitrotoulene D) 1,2,3-Trinitrotoulene

☐ A ☐ B ☐ C ☐ D

19) Considered the following structure of alcohol:



The correct name according to IUPAC of the above structure is:

- A) 1-Butene-2-ol C) 2-Butene-1-ol
B) 2-Butene-4-ol D) 1-Butene-4-ol

☐ A ☐ B ☐ C ☐ D

20) Which of the following type of alcohols is prepared by the reduction of aldehydes?

- A) 2° alcohols C) 3° alcohols
B) 1° alcohols D) Both B and C

☐ A ☐ B ☐ C ☐ D

21) Which of the following methods is used to prepare ethers?

- A) Williamson's synthesis
B) Kolbe's electrolytic method
C) Strecker synthesis
D) Wolf Kishner's reduction reaction

☐ A ☐ B ☐ C ☐ D

22) Which of the following reactions is / are possible with phenol?

- A) Reaction with sodium metal only
B) Oxidation of phenol only
C) Both A and B
D) Neither A nor B

☐ A ☐ B ☐ C ☐ D

23) Different methods are given to prepare phenol:

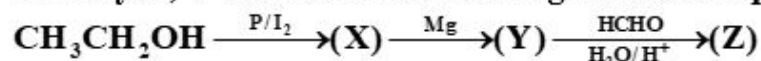
- I. By the reaction of sodium salt of benzene sulphonic acid with NaOH at 320°C followed by reaction with HCl
II. By the reaction of Chlorobenzene with 10% NaOH at 360°C and 150 atmospheric pressure
III. Oxidation of cumene
IV. Hydrolysis of diazonium salt

Which of the above methods is known as Dow's process?

- A) II only C) II and III
B) I only D) I and II

☐ A ☐ B ☐ C ☐ D

24) Identify X, Y and Z in the following reaction sequence:



- A) Ethene, ethylmagnesium iodide, n-propyl alcohol
B) Ethylmagnesium iodide, ethane, n-propyl alcohol
C) n-Propyl alcohol, ethylmagnesium iodide, ethane
D) Ethylmagnesium iodide, n-propyl alcohol, ethene

☐ A ☐ B ☐ C ☐ D

25) Which of the following reactions involves cleavage of O – H bond in alcohol?

- A) $\text{C}_2\text{H}_5\text{OH} + \text{SOCl}_2 \xrightarrow{\text{Pyridine}} \text{C}_2\text{H}_5\text{Cl} + \text{SO}_2 + \text{HCl}$
B) $\text{C}_2\text{H}_5\text{OH} + \text{CH}_3\text{COOH} \xrightarrow{\text{Conc. H}_2\text{SO}_4} \text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O}$
C) $\text{C}_2\text{H}_5\text{OH} + \text{HCl} \xrightarrow{\text{ZnCl}_2} \text{C}_2\text{H}_5\text{Cl} + \text{H}_2\text{O}$
D) $\text{C}_2\text{H}_5\text{OH} + \text{HNH}_2 \xrightarrow{\text{ThO}_2} \text{C}_2\text{H}_5\text{NH}_2 + \text{H}_2\text{O}$

☐ A ☐ B ☐ C ☐ D

26) Oxidative cleavage of 1,2-diol with periodic acid results in the formation of:

- A) Two molecules of carbonyls
B) Two molecules of carboxylic acids
C) Two molecules of alcohols
D) Two molecules of ethers

☐ A ☐ B ☐ C ☐ D

27) Which of the following enzymes is involved in the conversion of sugar (molasses) into glucose and fructose?

- A) Diastase C) Maltose

B) Invertase

D) Zymase

☐ A ☐ B ☐ C ☐ D

28) A biochemical process in which large molecules are broken down into smaller molecules in the presence of enzymes secreted by microorganism is called?

A) Fermentation

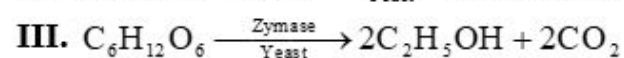
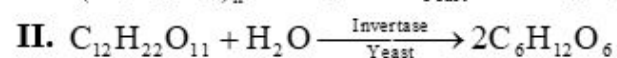
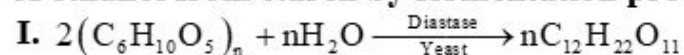
C) Polymerization

B) Cracking

D) Reforming

☐ A ☐ B ☐ C ☐ D

29) Consider the following steps involved in the preparation of ethanol from starch by fermentation process.



Which of the above statement is incorrect in the preparation of ethanol from starch by fermentation process?

A) I only

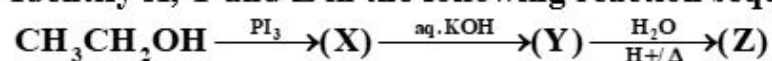
C) II and III

B) II only

D) I, II and III

☐ A ☐ B ☐ C ☐ D

30) Identify X, Y and Z in the following reaction sequence:



A) Iodoethane, ethene, ethanol

B) Ethene, iodoethane, ethanol

C) Ethene, ethanol, iodoethane

D) Ethanol, iodoethane, ethane

☐ A ☐ B ☐ C ☐ D

< WORKSHEET

Chemistry

ATTEMPTED MCQS 30/30



1) Which of the following product is obtained by the reaction of Grignard reagent with ketone followed by hydrolysis?

- A) 1° alcohol C) 3° alcohol
B) 2° alcohol D) Both B and C

☒ A ☐ B ☐ C ☐ D

Your answer is incorrect

(C)

- A 3° alcohol is formed when ketone is treated with Grignard reagent followed by acid hydrolysis.
- A 1° alcohol is formed when formaldehyde (methanal) is treated with Grignard reagent followed by acid hydrolysis
- A 2° alcohol is formed when aldehyde (other than formaldehyde) treated with Grignard reagent followed by acid hydrolysis.

2) Which of the following tests helps us to distinguish between methanol and ethanol?

- A) Lucas test C) Tollen's test
B) Iodoform test D) Baeyer's test

☒ A ☐ B ☐ C ☐ D

Your answer is incorrect

(B) Iodoform test ($I_2 + NaOH$) helps us to distinguish between ethanol and methanol. When ethanol is treated with I_2 in the presence of $NaOH$ yellow crystal of iodoform (CHI_3) are obtained while methanol does not give this test as shown in the reaction
$$C_2H_5OH + 4I_2 + 6NaOH \rightarrow CHI_3 +$$



3) Which of the following is the weakest acid?

- A) Carboxylic acid C) Phenol
B) Ethanol D) Ethyne

A ☐ B ☐ C ☐ D

Your answer is incorrect

(D) From the K_a value as shown in the table, it is clear that ethyne is a weaker acid because its K_a value is smaller.

Name of compound	K_a (mol dm ⁻³)
Carboxylic acid e.g. (CH ₃ COOH)	1.7×10^{-5}
Phenol	1.3×10^{-10}
Water	10^{-16}
Ethyne	10^{-20}

4) All of the following statements about phenol and ethanol are correctly matched EXCEPT:

Opt.	Properties	Phenol	Ethanol
A)	Bromination (Br ₂ /H ₂ O)	White ppt of 2,4,6-Tribromophenol	No reaction
B)	H ₂ /Ni	No reaction	No reaction
C)	Action of organic acid	No reaction	Formation of ester
D)	Iodoform test	No reaction	Yellow ppt of CHI ₃

A ☐ B ☐ C ☐ D

Your answer is incorrect

(B)

5) In which of the following reaction ethene is formed:

- A) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{Na} \longrightarrow$
B) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{SOCl}_2 \longrightarrow$
C) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{conc. H}_2\text{SO}_4 / 180^\circ\text{C} \longrightarrow$
D) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{PCl}_5 \longrightarrow$

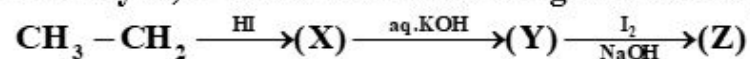
A ☐ B ☐ C ☐ D

Your answer is incorrect

(C) In the following reaction ethene is formed:

- A) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{Na} \longrightarrow \text{CH}_3 - \text{CH}_2 - \text{ONa} + \text{H}_2$
B) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{SOCl}_2 \longrightarrow \text{CH}_3 - \text{CH}_2 - \text{Cl} + \text{SO}_2 + \text{HCl}$
C) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{conc. H}_2\text{SO}_4 / 180^\circ\text{C} \longrightarrow \text{CH}_2 = \text{CH}_2 + \text{H}_2\text{O}$
D) $\text{CH}_3 - \text{CH}_2 - \text{OH} + \text{PCl}_5 \longrightarrow \text{CH}_3 - \text{CH}_2 - \text{Cl} + \text{POCl}_3 + \text{HCl}$

6) Identify X, Y and Z in the following reaction sequence:

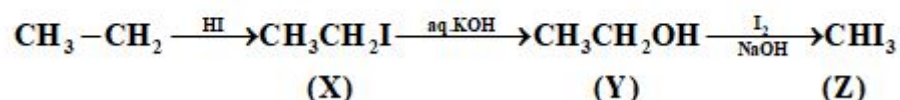


- A) Iodoethane, ethanol, iodoform
 B) Ethanol, iodoform, iodoethane
 C) Iodoform, iodoethane, ethanol
 D) Iodoethane, iodoform, ethanol

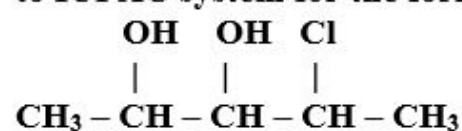
A ☐ B ☐ C ☐ D

Your answer is correct

(A) Identify X, Y and Z in the following reaction sequence:



7) Which one of the following is the correct name according to IUPAC system for the formula given below?

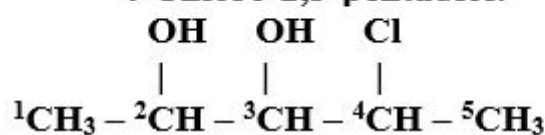


- A) 4-Chloro-2,3-pentadiol C) 3-Chloro-2,3-pentadiol
 B) 4-Chloro-3,4-pentadiol D) 3-Chloro-2,4-pentadiol

A ☐ B ☐ C ☐ D

Your answer is correct

(A) The correct name of the given structure according to IUPAC is 4-Chloro-2,3-pentadiol:



8) Which of the following drying agent is used to get absolute alcohol from rectified spirit?

- A) Conc. H_2SO_4 C) Al_2O_3
 B) CaO D) H_3PO_4

A ☐ B ☐ C ☐ D

Your answer is incorrect

(B) Absolute alcohol (almost 100% pure) can be obtained by redistillation of rectified spirit in the presence of CaO which absorbs its moisture.

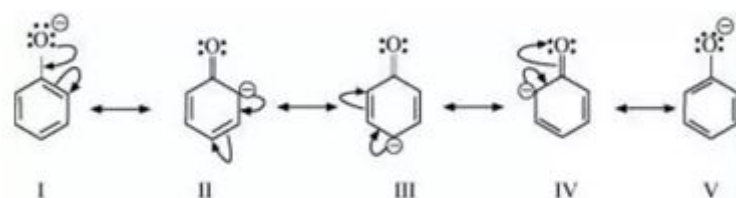
9) The phenoxide is more stable than ethoxide ion as:

- A) Lone pair on oxygen atom overlaps with the delocalized π -bonding system in benzene
 B) Oxygen atom is directly bonded with benzene ring in phenoxide ion
 C) The negative charge is localized on oxygen atom of phenoxide ion
 D) The negative charge is delocalized on oxygen atom of ethoxide ion

A ☐ B ☐ C ☐ D

Your answer is correct

(A) (A) Phenol is much more acidic than alcohol but less acidic than carboxylic acid. The reason why phenol is acidic lies in the nature of the phenoxide ion. The negative charge on oxygen atom can become involved with the π -electron cloud on the benzene ring. The negative charge is thus delocalized in the ring and the phenoxide ion becomes relatively stable. Delocalization of negative charge in the ring of phenoxide is shown below:



This step of delocalization is not possible with alcohols.

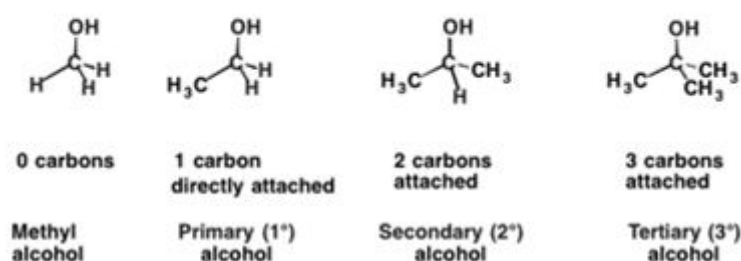
10) The type of monohydric alcohols in which -OH group is attached with such carbon atom which is further attached with one carbon atoms and two hydrogen atoms is called:

- A) 1° alcohols C) 3° alcohols
B) 2° alcohols D) Absolute alcohol

A ☐ B ☐ C ☐ D ☐

Your answer is correct

(A) Structure of primary secondary and tertiary alcohols are shown below:



11) Which of the following types of alcohols on oxidation with acidified potassium dichromate gives aldehydes?

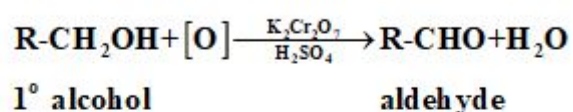
- A) 1° alcohols C) 3° alcohols
B) 2° alcohols D) Neo alcohol

A ☐ B ☐ C ☐ D ☐

Your answer is correct

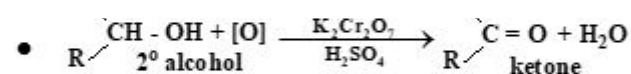
(A) Detail of the other reactions are given below

A) On oxidation of a 1° alcohol aldehyde is obtained

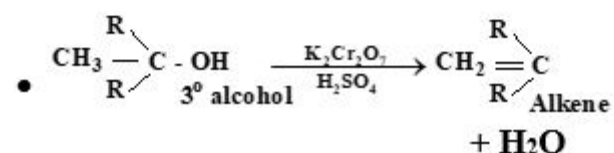


B) On oxidation of a 2° alcohol ketone is obtained

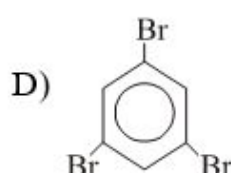
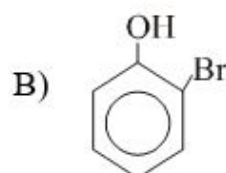
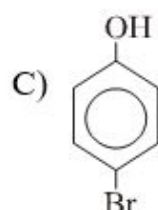
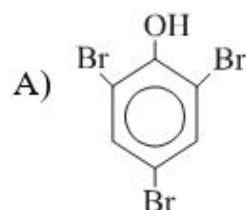




C) A 3° alcohols are resistant to oxidation. In the presence of acid dichromate they undergo elimination reactions to give alkenes



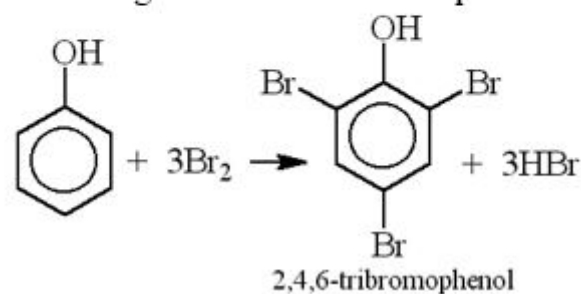
12) Aqueous phenol decolorizes bromine water to form white ppt. What is the structure of white ppt formed?



A ☐ B ☐ C ☐ D

Your answer is correct

(A) If **bromine** water is added to a solution of **phenol** in water, the **bromine** water is decolourised and a white precipitate is formed which smells of antiseptic. Notice the multiple substitution around the ring into all the activated positions.



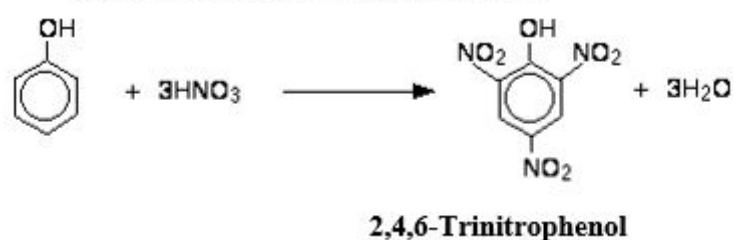
13) When phenol is treated with concentrated nitric acid at high temperature, which of the following product is obtained?

- A) o-nitrophenol C) m-nitrophenol
B) p-nitrophenol D) 2,4,6-trinitrophenol

A ☐ B ☐ C ☐ D

Your answer is incorrect

(D) When phenol is treated with concentrated nitric acid at high temperature in the presence of conc. sulphuric acid, 2,4,6-trinitrophenol is obtained as shown in the reaction:

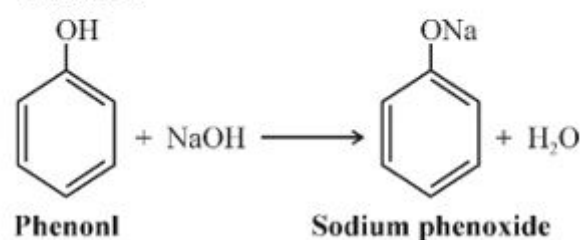


Which of the following reactions shows that phenol acts as

- 14) an acid?
- A) Reaction with conc. nitric acid
 B) Reaction with bromine
 C) Reaction with NaOH
 D) Reaction with H₂
- A ☐ B ☐ C ☐ D

Your answer is incorrect

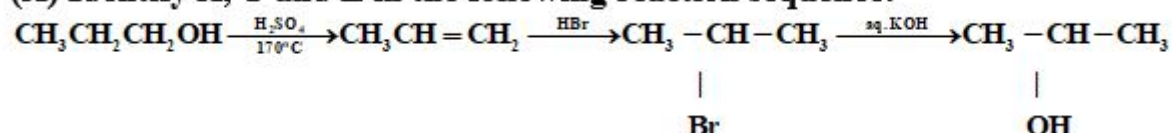
- (C) Reaction of phenol with alkali (NaOH) results in the formation of salt which show that it is acid base reaction



- 15) Identify X, Y and Z in the following reaction sequence:
- $$\text{CH}_3\text{CH}_2\text{CH}_2\text{OH} \xrightarrow[170^\circ\text{C}]{\text{H}_2\text{SO}_4} (\text{X}) \xrightarrow{\text{HBr}} (\text{Y}) \xrightarrow{\text{aq. KOH}} (\text{Z})$$
- A) Propene, isopropyl bromide, isopropyl alcohol
 B) Isopropyl alcohol, isopropyl bromide, propene
 C) Isopropyl alcohol, propene, isopropyl bromide
 D) Isopropyl bromide, propene isopropyl alcohol
- A ☐ B ☐ C ☐ D

Your answer is correct

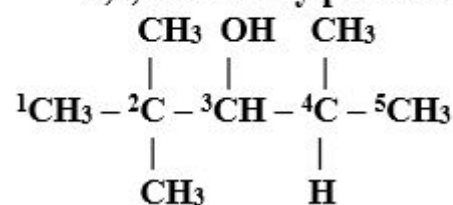
- (A) Identify X, Y and Z in the following reaction sequence:



- 16) Which one of the following is the correct name according to IUPAC system for the formula given below?
- $$\begin{array}{ccccccc} & \text{CH}_3 & \text{OH} & & \text{CH}_3 & & \\ & | & | & & | & & \\ \text{CH}_3 & - & \text{C} & - & \text{CH} & - & \text{C} & - & \text{CH}_3 \\ & | & & & | & & \\ & \text{CH}_3 & & & \text{H} & & \end{array}$$
- A) 2,2,4-Trimethylpent-3-ol C) 2,2,4-Trimethylpent-2-ol
 B) 2,3,4-Trimethylpent-3-ol D) 2,3,5-Trimethylpent-3-ol
- A ☐ B ☐ C ☐ D

Your answer is correct

- (A) The correct name of the given structure according to IUPAC is



- 17) Which of the following is the strongest acid?
- A) Carboxyl acid C) Water
 B) Phenol D) Alcohol

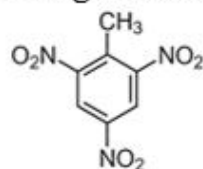
A ☐ B ☐ C ☐ D

Your answer is correct

- (A) Relative acidic strength of alcohol, phenol, water and carboxylic acid is as follows.

Carboxylic acid > Phenol > Water > Alcohol

- 18) Considered the following structure:



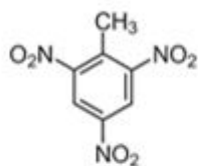
The correct name according to IUPAC of the above structure is:

- A) 2,4,6-Trinitrotoulene C) 2,3,4-Trinitrotoulene
B) 1,3,5-Trinitrotoulene D) 1,2,3-Trinitrotoulene

A ☐ B ☐ C ☐ D

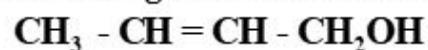
Your answer is correct

- (A) The correct name according to IUPAC of the given structure is 2,4,6-Tribnitrotoulene (TNT). It is an explosive material.



Trinitrotoluene (TNT), or more specifically 2,4,6-trinitrotoluene, is a chemical compound with the formula $C_6H_2(NO_2)_3CH_3$. This yellow solid is sometimes used as a reagent in chemical synthesis, but it is best known as an explosive material with convenient handling properties. The explosive yield of TNT is considered to be the standard measure of bombs and other explosives. In chemistry, TNT is used to generate charge transfer salts.

- 19) Considered the following structure of alcohol:



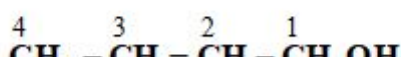
The correct name according to IUPAC of the above structure is:

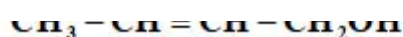
- A) 1-Butene-2-ol C) 2-Butene-1-ol
B) 2-Butene-4-ol D) 1-Butene-4-ol

A ☐ B ☐ C ☐ D

Your answer is incorrect

- (C) The correct name according to IUPAC of the given structure is 2-buten-1-ol.





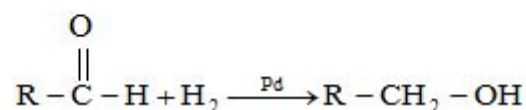
20) Which of the following type of alcohols is prepared by the reduction of aldehydes?

- A) 2° alcohols C) 3° alcohols
B) 1° alcohols D) Both B and C

A ☐ B ☐ C ☐ D

Your answer is incorrect

(B) 1° alcohol is prepared by the reduction of aldehyde as shown in the reaction.



21) Which of the following methods is used to prepare ethers?

- A) Williamson's synthesis
B) Kolbe's electrolytic method
C) Strecker synthesis
D) Wolf Kishner's reduction reaction

A ☐ B ☐ C ☐ D

Your answer is correct

(A) An alcohol is treated with metallic sodium to form alkoxides. This alkoxide ion is a strong nucleophile and readily reacts with alkyl halide to produce an ether. e.g.



Ethoxy ethane

(Diethyl ether)

22) Which of the following reactions is / are possible with phenol?

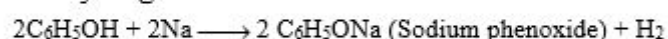
- A) Reaction with sodium metal only
B) Oxidation of phenol only
C) Both A and B
D) Neither A nor B

A ☐ B ☐ C ☐ D

Your answer is incorrect

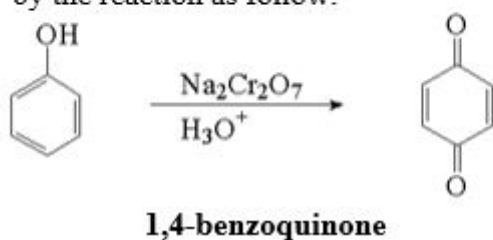
(C) (1) Reaction with sodium metal:

Phenols react with highly electropositive alkali metals such as sodium, potassium etc to yield corresponding phenoxides and hydrogen as shown in the reaction.



(2) Oxidation of phenol: Phenols are rather easily oxidized despite the absence of a hydrogen atom on the hydroxyl bearing carbon. Among the colored products from the oxidation of phenol by chromic acid is the dicarbonyl compound para-

benzoquinone (also known as 1,4-benzoquinone or simply quinone); an ortho isomer is also known. Oxidation of phenol is shown by the reaction as follow:



23) Different methods are given to prepare phenol:

- I. By the reaction of sodium salt of benzene sulphonic acid with NaOH at 320°C followed by reaction with HCl
- II. By the reaction of Chlorobenzene with 10% NaOH at 360°C and 150 atmospheric pressure
- III. Oxidation of cumene
- IV. Hydrolysis of diazonium salt

Which of the above methods is known as Dow's process?

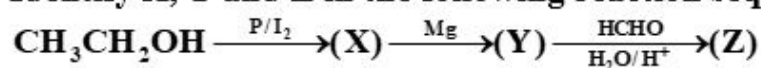
- A) II only C) II and III
B) I only D) I and II

A ☐ B ☐ C ☐ D

Your answer is correct



24) Identify X, Y and Z in the following reaction sequence:



- A) Ethene, ethylmagnesium iodide, n-propyl alcohol
B) Ethylmagnesium iodide, ethane, n-propyl alcohol
C) n-Propyl alcohol, ethylmagnesium iodide, ethane
D) Ethylmagnesium iodide, n-propyl alcohol, ethene

A ☐ B ☐ C ☐ D

Your answer is correct

(A)

25) Which of the following reactions involves cleavage of O – H bond in alcohol?

- A) $\text{C}_2\text{H}_5\text{OH} + \text{SOCl}_2 \xrightarrow{\text{Pyridine}} \text{C}_2\text{H}_5\text{Cl} + \text{SO}_2 + \text{HCl}$
B) $\text{C}_2\text{H}_5\text{OH} + \text{CH}_3\text{COOH} \xrightarrow{\text{Conc. H}_2\text{SO}_4} \text{CH}_3\text{COOC}_2\text{H}_5 + \text{H}_2\text{O}$
C) $\text{C}_2\text{H}_5\text{OH} + \text{HCl} \xrightarrow{\text{ZnCl}_2} \text{C}_2\text{H}_5\text{Cl} + \text{H}_2\text{O}$
D) $\text{C}_2\text{H}_5\text{OH} + \text{HNH}_2 \xrightarrow{\text{ThO}_2} \text{C}_2\text{H}_5\text{NH}_2 + \text{H}_2\text{O}$

A ☐ B ☐ C ☐ D

Your answer is incorrect

(B)

26) Oxidative cleavage of 1,2-diol with periodic acid results in the formation of:

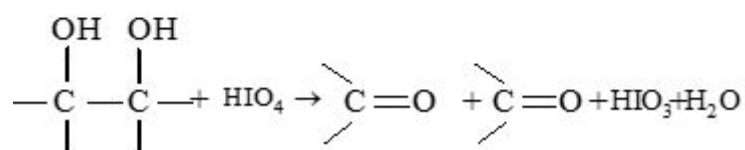
- A) Two molecules of carbonyls
- B) Two molecules of carboxylic acids
- C) Two molecules of alcohols
- D) Two molecules of ethers

A ☐ B ☐ C ☐ D

Your answer is correct

(A) Oxidative cleavage of 1,2-diol with periodic acid results in the formation of two molecules of carbonyls as shown in the reaction.

- 1,2- or vicinal diols are cleaved by periodic acid, HIO_4 , into two carbonyl compounds.
- The reaction is selective for 1,2-diols.
- The reaction occurs via the formation of a cyclic periodate ester.
- This can be used as a functional group test for 1,2-diols.
- The products are determined by the substituents on the diol.



27) Which of the following enzymes is involved in the conversion of sugar (molasses) into glucose and fructose?

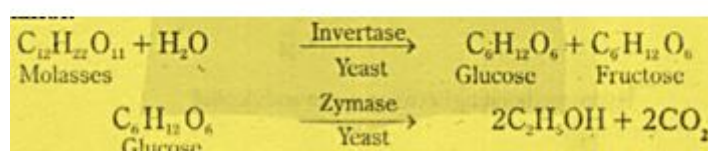
- A) Diastase
- B) Invertase
- C) Maltose
- D) Zymase

A ☐ B ☐ C ☐ D

Your answer is incorrect

(B) Invertase enzymes is used in the conversion of sugar (molasses) into glucose and fructose as shown in the reaction

- Molasses is the mother liquor left after crystallization of cane sugar from concentrated juice.
- It is dark coloured thick syrupy mass.
- Molasses contains 60% fermentable sugars mostly sucrose, glucose and fructose.
- The fermented liquor contains 8 – 10% ethanol



28) A biochemical process in which large molecules are broken down into smaller molecules in the presence of enzymes secreted by microorganism is called?

- A) Fermentation
- C) Polymerization

B) Cracking

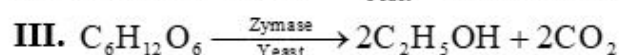
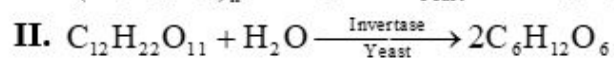
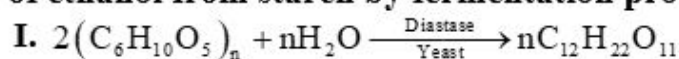
D) Reforming

A ☐ B ☐ C ☐ D

Your answer is correct

- (A) A biochemical process in which large molecules are broken down into smaller molecules in the presence of enzymes secreted by microorganism is called fermentation.

29) Consider the following steps involved in the preparation of ethanol from starch by fermentation process.



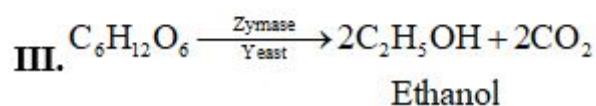
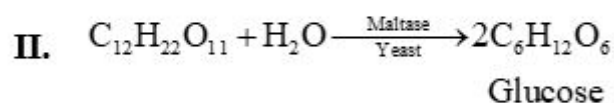
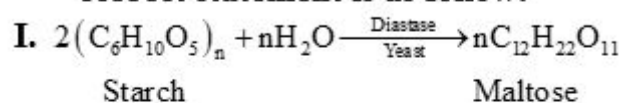
Which of the above statement is incorrect in the preparation of ethanol from starch by fermentation process?

- A) I only
B) II only
C) II and III
D) I, II and III

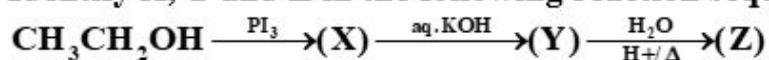
A ☐ B ☐ C ☐ D

Your answer is incorrect

- (B) It is incorrect statement. The correct statement is as follow:



30) Identify X, Y and Z in the following reaction sequence:



- A) Iodoethane, ethene, ethanol
B) Ethene, iodoethane, ethanol
C) Ethene, ethanol, iodoethane
D) Ethanol, iodoethane, ethane

A ☐ B ☐ C ☐ D

Your answer is correct

(A)